VI. ARCHAEOLOGICAL PROPERTY TYPES

A. Archaeological Property Types Previously Defined

"A property type is a grouping of individual properties based on shared physical or associative characteristics. Property types link the ideas incorporated in the theoretical historic context with actual historic properties that illustrate those ideas" (National Park Service 1983: 44719). Prior to developing this historic context, the State Historic Preservation Office had defined several archaeological property types, and had assigned each inventoried historical archaeological site to one or more of them. Some of the inventoried historical archaeological sites attributed to the following property types are potentially associated with this historic context: Agricultural Complexes, Tenancies, Dwellings, Residential Tenancies, Worker Houses, Barns, and Other Outbuildings. In creating the data base of inventoried archaeological sites potentially associated with this historic context (Appendix 1), the authors found that five archaeological property types currently encompass the inventoried archaeological sites in New Castle and Kent counties occupied between 1830 and 1940 and at least potentially associated with farming, farmers, and farm laborers: Agricultural Complexes, Tenancies, Dwellings, Residential Tenancies, and Unknown (see also **IX. EVALUATION OF INVENTORIED HISTORICAL ARCHAEOLOGICAL RESOURCES ASSOCIATED WITH THE HISTORIC CONTEXT**).

The archaeological planning studies for the Route 13/ Delaware Route 1 and the Route 301 corridors employed slightly different property types. In the Cultural Resources Reconnaissance Planning Study for the Proposed Route 13 Relief Corridor, New Castle and Kent Counties, Delaware, the authors included eight property types potentially associated with this historic context: Agricultural Complex-Peaches, Agricultural Estate (ie. decedent's estate), Agricultural Tenant Dwelling/Farm, Slave Quarter, Migrant Worker House, Agricultural Complex, Agricultural Outbuilding, and Agricultural and Mill Complex (Custer et al. 1984: 36-43). This number was reduced to two, Agricultural Complex and Agricultural Tenancy, in the preliminary planning study for the extension of Route 301 in New Castle County (Kellogg 1992: Tables 7-13; see also **IX. EVALUATION OF INVENTORIED HISTORICAL ARCHAEOLOGICAL RESOURCES ASSOCIATED WITH THE HISTORIC CONTEXT**).

B. Proposed Archaeological Property Types

The information collected and synthesized for this historic context and the experience of Delaware historical archaeologists working with the property types described above suggested a redefinition of the property types associated with this historic

context was warranted. In defining the following seven property types, the members of the historic context review committee worked to accommodate a series of basic concerns:

1) Archaeological sites must be attributable to a property type at the completion of Phase II (intensive survey/ evaluation for National Register eligibility) investigations, although attribution on the basis of a Phase I (reconnaissance or resource identification) survey is highly desirable. The more in-depth documentary and archaeological research completed for Phase III (data recovery/ mitigation) investigations may result in revision of property type assignments;

2) Whenever possible, archaeological sites must be attributable to a property type based on physical characteristics identifiable in the field, however associative property types and confirmation of property type assignments through documentary research were recognized as essential components of the property type process;

3) A fairly small number of broadly defined, comprehensive property types was preferable; the number of property types should be kept from proliferating to the point where it would often be impossible to assign a site to a property type or where individual sites could be attributable to several, overlapping property types. This does not rule out the possibility, of course, that at different points in time, an archaeological site may represent different property types; and

4) The property types should be applicable to both the 1830-1880 and 1880-1940 time periods.

The seven proposed property types are: Agricultural Complex, Agricultural Dwelling, Agricultural Outbuilding, Agricultural Quarter, Agricultural Transport Facility, Agricultural Structure, and Agricultural Commercial/ Industrial Outbuilding. Below, each property type is defined and its physical and associative characteristics outlined. Following this discussion, the locational patterns and current condition of the property types are presented. All the property types are considered together in these latter presentations, as detailed information is not available except at the level of the farm and the agricultural labor force (see **V. HISTORIC CONTEXT NARRATIVE**). When possible, individual property types are treated separately.

1. Agricultural Complex

Definition

An Agricultural Complex comprises a farmstead--the main compound on a farm--encompassing at least one dwelling along with

domestic and agricultural outbuildings and the yards, gardens, and activity areas associated with them.

Physical Characteristics

An Agricultural Complex consists of standing buildings--dwelling(s) and domestic and agricultural outbuildings--and/or archaeological evidence associated with them and/or archaeological evidence of dwellings and domestic and agricultural outbuildings no longer extant. The dwelling(s) may have housed the farm's owners, tenant farmers, farm managers, other relatives, and/or farm hands (see also Siders et al. 1991: 3). Kitchens, smokehouses, milk houses, spring houses, wood sheds, ice houses, and other food and supply storage buildings number among the expected domestic outbuildings; agricultural outbuildings would include barns of different types, stables, cart sheds, granaries, hay barracks, hog houses, sheep houses, and potato/ root houses (see also Siders et al. 1991: 35, 37). In addition, the Complex encompasses the utilitarian and nonutilitarian spaces and features directly associated with these buildings--landscaped lawns, yards, and gardens; kitchen gardens; work yards; animal pens; wells and other water sources; drives, lanes, and paths; and trash and other waste disposal areas and features. Agricultural Complexes are characterized by a concentration and multiplicity of features, functions, and material culture. Temporally diagnostic material culture recovered during Phase I (reconnaissance/ identification survey) testing will usually allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically generally define the boundaries of the Agricultural Complex as an archaeological site. Sharply decreasing concentrations of material culture in shovel tests and larger test units have also been utilized in delineating site boundaries; however, recent studies in Delaware have suggested that due to the generally low concentrations of material culture in agricultural yards (in the vicinity of the agricultural outbuildings, workyards, etc.), this alone is not a satisfactory indicator of Agricultural Complex site boundaries (Wade P. Catts 1992: personal communication). Concentrations of certain chemicals in the subsoil are proving a better indicator of Agricultural Complexes' site boundaries (Catts, Jamison, and Scholl 1992; Grettler et al. 1993; Hoseth et al. 1990; Scholl, Hoseth, and Grettler 1992; Thomas 1983) in conjunction with fencelines and other physical markers. Agricultural Complex archaeological sites do not include the agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Complex must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical characteristics of Agricultural Complexes may suffice in assigning many archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Complexes not definable from the physical evidence alone. Documentary sources such as deeds, tax assessments, population and agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, insurance policy surveys, and state directories, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Complex. These sources and others often also yield descriptions of the Complex's components and other significant information on agricultural production, on the farm's occupants, and on the sociocultural context.

2. Agricultural Dwelling

Definition

An Agricultural Dwelling comprises the residence of a farm owner-operator, tenant farmer, farm manager, or other free agricultural laborer and his or her family-household (see also Siders et al. 1991: 3). It encompasses at least one dwelling, along with any domestic outbuildings and the yards, gardens, and activity areas associated with them.

Physical Characteristics

An Agricultural Dwelling consists of standing buildings--dwelling(s) and in some instances domestic outbuildings--and/or archaeological evidence associated with them and/or archaeological evidence of dwellings and domestic outbuildings no longer extant. In addition, it encompasses the utilitarian and nonutilitarian spaces and features directly associated with these buildings--landscaped lawns, yards, and gardens; kitchen gardens; work yards; animal pens; wells and other water sources; drives, lanes, and paths; and trash and other waste disposal areas and features. Agricultural Dwellings are characterized by a lesser concentration and multiplicity of features, functions, and material culture than Agricultural Complexes. Their primary physical characteristics are archaeological, and when present, surviving architectural evidence of a residential occupation. Temporally diagnostic material culture recovered during Phase I (reconnaissance/ identification survey) testing will usually allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically generally define the boundaries of the Agricultural Dwelling as an archaeological site. Sharply decreasing concentrations of material culture in shovel tests and larger test units have also been utilized in delineating site

boundaries. Concentrations of certain chemicals in the subsoil are also proving a good indicator of Agricultural Dwellings' site boundaries (Catts and Custer 1990; Grettler et al. 1991; Hoseth, Catts, anad Tinsman 1992) in conjunction with fencelines and other physical markers. Agricultural Dwellings may or may not have been located on farms during their period of occupation (between 1830 and 1940) (see also Siders et al. 1991: 41-46). Those on farms do not include the agricultural outbuildings, industrial/ commercial outbuildings, transport facilities, structures, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. The physical boundaries of those not located on farms equate with the legal property, the lot, on which the Dwelling stood. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, the Agricultural Dwelling must be researched and evaluated in the context of the farm of which it formed a part or with which it was associated through relationships of labor. It will, of course, not always be possible to identify the specific farm(s) on which agricultural laborers living on independent properties worked.

Associative Characteristics

In the majority of cases, it will not be possible to assign archaeological sites to this property type based solely on the sites' physical characteristics. Agricultural Dwelling is an Associative Property Type, and thus documentary research must be undertaken to attribute sites to this property type (see also Siders et al. 1991: 4). Documentary sources such as deeds, tax assessments, population and agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, insurance policy surveys, and state directories, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Dwelling. These sources and others often also yield descriptions of the Dwelling's components and other significant information on its occupants and their lives.

3. Agricultural Outbuilding

Definition

An Agricultural Outbuilding comprises one or more outbuildings with the same or different agricultural functions located on farms but isolated from the farmstead, the Agricultural Complex. In addition to the outbuilding(s), the property includes associated work and storage yards.

Physical Characteristics

An Agricultural Outbuilding consists of standing agricultural outbuildings and/or archaeological evidence associated with them and/or archaeological evidence of agricultural outbuildings no longer extant (see Siders et al. 1991: 35, 37). In addition, it encompasses the utilitarian spaces and features directly associated with these outbuildings--work yards; storage areas; animal pens; wells and other water sources; drives, lanes, and paths; and trash and other waste disposal areas and features. Agricultural Outbuildings are characterized by a dearth of features, functions, and material culture when compared to Agricultural Complexes. The low quantities of domestic material culture generally distinguish these sites from Agricultural Dwellings, along with their isolated location in agricultural fields often far from the nearest transportation artery. Temporally diagnostic material culture recovered during Phase I testing may or may not allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically will in some cases define the boundaries of the Agricultural Outbuilding as an archaeological site. In most instances, these along with decreasing concentrations of material culture in shovel tests and larger test units and soil chemical concentrations will be needed to delineate site boundaries, especially due to the generally low concentrations of material culture found associated with agricultural outbuildings and their yards. Agricultural Outbuilding archaeological sites do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Outbuilding must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical and locational characteristics of Agricultural Outbuildings may suffice in assigning many archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Outbuildings not definable from the physical evidence alone, or at least to identify the farm on which the Outbuilding(s) stood. Documentary sources such as deeds, tax assessments, population and agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, insurance policy surveys, and state directories, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Outbuilding. These sources and others may also yield descriptions of the Outbuilding and other significant information on its function, on the farm's agricultural production, and on the farm's sociocultural context.

4. Agricultural Quarter

Definition

An Agricultural Quarter comprises a residence or residential complex housing numbers of agricultural laborers such as slaves or migrant workers. It encompasses at least one dwelling, along with domestic outbuildings in some cases, and the yards, gardens, and activity areas associated with them. Architectural and landscape features and configurations, and the nature of the resident households, distinguish Agricultural Quarters from Agricultural Dwellings.

Physical Characteristics

An Agricultural Quarter consists of standing buildings--dwelling(s) and domestic outbuildings--and/or archaeological evidence associated with them and/or archaeological evidence of dwellings and domestic outbuildings no longer extant. In addition, it encompasses the utilitarian and nonutilitarian spaces and features directly associated with these buildings--landscaped yards; kitchen gardens; work yards; animal pens; wells and other water sources; drives, lanes, and paths; and trash and other waste disposal areas and features. Agricultural Quarters are characterized by a concentration and multiplicity of features, functions, and material culture associated with domestic activities. Perhaps most diagnostic will be the architectural evidence, one feature which distinguishes an Agricultural Quarter from an Agricultural Dwelling. Rather than one or a few houses, Quarters comprise one or more large barracks-like buildings and/or complexes of several smaller residences arrayed in rows or otherwise clustered. Evidence of agricultural or industrial activity will typically be lacking. Temporally diagnostic material culture recovered during Phase I testing will usually allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically often define the boundaries of the Agricultural Quarter as an archaeological site. Sharply decreasing concentrations of material culture in shovel tests and larger test units have also been utilized in delineating site boundaries. Concentrations of certain chemicals in the subsoil may also prove a good indicator of Agricultural Quarters' site boundaries in conjunction with fencelines and other physical markers. Agricultural Quarters may or may not have been located on farms during their period of occupation (between 1830 and 1940). Those that were stood apart from the farm's Agricultural Complex and do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. The physical boundaries of those not located on farms equate with the legal property, the lot, on which the Quarters stood. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL**

RESOURCES, the Agricultural Quarter must be researched and evaluated in the context of the farm of which it formed a part or with which it was associated through relationships of labor. It will, of course, not always be possible to identify the specific farm(s) on which slaves or migrant workers living on independent properties worked.

Associative Characteristics

In some cases, it may not be possible to assign archaeological sites to this property type based solely on the sites' physical characteristics. Agricultural Quarters are thus often Associative Property Types, and documentary research is required to attribute sites to this property type. Documentary sources such as deeds, tax assessments, population and agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, insurance policy surveys, and state directories, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Quarter. These sources and others often also yield descriptions of the Quarter's components and other significant information on its occupants and their lives.

5. Agricultural Transport Facility

a. Agricultural Landing Complex

Definition

An Agricultural Landing Complex consists of one or more wharves and outbuildings along with outdoor work spaces, storage areas, yards, and underwater features associated with landings located on farms. Isolated from the farmstead, the Agricultural Complex, the Agricultural Landing Complex is situated at the river or creek's edge and is distinct from the larger commercial landings such as Smyrna Landing.

Physical Characteristics

An Agricultural Landing Complex consists of standing stores, warehouses, and other related outbuildings and/or archaeological evidence associated with them and/or archaeological evidence of structures and outbuildings no longer extant. In addition, it encompasses the utilitarian spaces and features directly associated with these structures and outbuildings--work yards; loading and unloading areas; storage areas; animal pens; drives, lanes, and paths; and trash and other waste disposal areas and features. On the water side, an Agricultural Landing Complex includes standing wharves or other structures and/or archaeological evidence associated with them and/or archaeological evidence of structures no longer extant. Boats scuttled or sunk at the landing and underwater trash deposits, dumps of ballast, waste from minor

repairs made to boats at the landings, and the like may also constitute the underwater components of an Agricultural Landing Complex. Agricultural Landing Complexes may be characterized by a multiplicity or a dearth of features, functions, and material culture depending on the size and complexity of the Complex. The most diagnostic feature of these properties is their location along the banks of the watercourse, the river or creek. Temporally diagnostic material culture recovered during Phase I testing may or may not allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically will in some cases define the land side boundaries of the Agricultural Landing Complex as an archaeological site. In most instances, these along with decreasing concentrations of material culture in shovel tests and larger test units and soil chemical concentrations will be needed to delineate site boundaries. On the water side, site boundaries should be delineated to include all the structural components (or remains thereof) of the wharves and/or other transport facilities that constituted the Complex as well as the remains of boats, trash and other waste deposits, etc. noted above. Inspection of the Complex at low tide may provide sufficient visibility to determine the water side boundaries of an Agricultural Landing Complex. In some cases, test cores or other survey methods appropriate to underwater resource identification may be required. Agricultural Landing Complex archaeological sites do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Landing Complex must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical characteristics of Agricultural Landing Complexes should suffice in assigning many archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Landing Complexes not definable from the physical evidence alone, or at least to identify the farm on which the Complex was located. Documentary sources such as deeds, tax assessments, maps and atlases, probate records, Orphans' Court records, road papers, and insurance policy surveys, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Landing Complex. These sources and others may also yield descriptions of the Complex and other significant information on its function, on the farm's agricultural production, and on the farm's sociocultural context.

b. Agricultural Transport Facility (Railroad/ Road)

Definition

An Agricultural Transport Facility (Railroad/ Road) consists of one or more outbuildings along with work spaces, storage areas, loading and unloading areas and structures, and yards associated with land-based transport facilities located on farms. Isolated from the farmstead, the Agricultural Complex, the Agricultural Transport Facility (Railroad/ Road) is situated adjacent to the transportation artery (either a road or railroad).

Physical Characteristics

An Agricultural Transport Facility (Railroad/ Road) consists of standing stores, warehouses, and other related outbuildings and structures and/or archaeological evidence associated with them and/or archaeological evidence of structures and outbuildings no longer extant. In addition, it encompasses the utilitarian spaces and features directly associated with these buildings and structures--work yards; loading and unloading areas; storage areas; animal pens; drives, lanes, and paths; and trash and other waste disposal areas and features. Agricultural Transport Facilities (Railroad/ Road) may be characterized by a multiplicity or a dearth of features, functions, and material culture depending on the size and complexity of the Facility. The most diagnostic feature of these properties is their location along the land-based transportation artery serving the farm, either a road or the railroad. Temporally diagnostic material culture recovered during Phase I testing may or may not allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically will in some cases define the boundaries of the Agricultural Transport Facility (Railroad/ Road) as an archaeological site. In most instances, these along with decreasing concentrations of material culture in shovel tests and larger test units will be needed to delineate site boundaries. Archaeologists have not yet identified any sites belonging to this property type. As a result, this statement of the type's physical characteristics may require revision in the future. Agricultural Transport Facility (Railroad/ Road) archaeological sites do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Transport Facility (Railroad/ Road) must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical characteristics of Agricultural Transport Facilities (Railroad/ Road) should suffice in assigning many archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Transport Facilities (Railroad/ Road) not definable from the physical evidence alone, or at least to identify the farm on which the Facility was located. Documentary sources such as deeds, tax assessments, maps and atlases, probate records, Orphans' Court records, road papers, and insurance policy surveys, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Transport Facilities (Railroad/ Road). These sources and others may also assist in dating the Facility, or at least the transportation artery with which it was associated, and may yield descriptions of the Facility and other significant information on its function, on the farm's agricultural production, and on the farm's sociocultural context.

6. Agricultural Structure

Definition

An Agricultural Structure consists of one or more structures not designed to shelter humans or human activities, along with the outdoor work spaces and yards associated with these structures. Isolated from the farmstead, the Agricultural Complex, but located on a farm, the Agricultural Structure property type includes structures such as the stone water towers on northern New Castle County farms.

Physical Characteristics

An Agricultural Structure consists of standing structures and/or archaeological evidence associated with them and/or archaeological evidence of structures no longer extant. In addition, it encompasses the utilitarian spaces and features directly associated with these structures--yards; storage areas; drives, lanes, and paths; drainage features; trash and other waste disposal areas and features; and the like. Agricultural Structures are physically isolated from other property types, and may be characterized by a multiplicity or a dearth of features, functions, and material culture depending on the size and complexity of the Structure. Temporally diagnostic material culture recovered during Phase I testing may or may not allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Since these structures are not associated with human occupancy, domestic material culture should not be present in quantity. The structures themselves, or in some cases fencelines, walls, hedgerows, or other features still extant or visible archaeologically define the boundaries of the Agricultural Structure as an archaeological site. In some

Agricultural Structure as an archaeological site. In some instances, these along with decreasing concentrations of material culture in shovel tests and larger test units and soil chemical concentrations will be needed to delineate site boundaries. Agricultural Structure archaeological sites do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in **VII. ARCHAEOLOGICAL RESEARCH QUESTIONS** and in **VIII. CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Structure must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical characteristics of Agricultural Structures will suffice in assigning some archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Structures not definable from the physical evidence alone, or at least to identify the farm on which the Structure was located. Documentary sources such as deeds, tax assessments, agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, and insurance policy surveys, along with information collected through oral history will in some cases allow a site of the 1830-1940 period to be identified as an Agricultural Structure. These sources and others may also yield descriptions of the Structure and other significant information on its function, on the farm's agricultural production, and on the farm's sociocultural context.

7. Agricultural Commercial/ Industrial Outbuilding

Definition

An Agricultural Commercial/ Industrial Outbuilding comprises one or more outbuildings of the same or different commercial or industrial functions located on farms but isolated from the farmstead, the Agricultural Complex. In addition to the outbuilding(s), the property includes associated work and storage yards. Examples include blacksmith and other craft or artisan shops, agricultural processing complexes such as canneries, and commercial buildings such as stores and roadside produce stands. This property type is limited to buildings of these types and their associated landscapes that were located on farms. This property type has been included here because these buildings are located on farms, although this historic context does not address agricultural processing, industry, and commerce. A separate historic context will develop that theme. Additional research concerning this property type will be undertaken in conjunction with developing that context.

Physical Characteristics

An Agricultural Commercial/ Industrial Outbuilding consists of standing commercial or industrial outbuildings and/or archaeological evidence associated with them and/or archaeological evidence of commercial or industrial outbuildings no longer extant. In addition, it encompasses the utilitarian spaces and features directly associated with these outbuildings--work and processing yards; storage areas; animal pens; wells and other water sources; drives, lanes, paths, and other transportation-related features; and trash and other waste disposal areas and features. Agricultural Commercial/ Industrial Outbuildings are characterized by a dearth of domestic features and material culture when compared to Agricultural Complexes. The low quantities of domestic material culture and the presence of agricultural commercial/ industrial waste generally distinguish these sites from Agricultural Dwellings. Temporally diagnostic material culture recovered during Phase I testing may or may not allow the site to be dated to the 1830-1880 and/or 1880-1940 time period(s). Fencelines, walls, hedgerows, or other physical boundaries still extant or visible archaeologically will in some cases define the boundaries of the Agricultural Commercial/ Industrial Outbuilding as an archaeological site. In most instances, these along with decreasing concentrations of material culture in shovel tests and larger test units and soil chemical concentrations will be needed to delineate site boundaries. Agricultural Commercial/ Industrial Outbuilding archaeological sites do not include the other buildings, agricultural fields, orchards, woodlands, marshlands, watercourses, etc. that constituted the entire farm. As discussed in VII. **ARCHAEOLOGICAL RESEARCH QUESTIONS** and in VIII. **CRITERIA FOR EVALUATION OF ARCHAEOLOGICAL RESOURCES**, however, the Agricultural Commercial/ Industrial Outbuilding must be researched and evaluated in the context of the farm of which it formed a part.

Associative Characteristics

While the distinctive physical characteristics of Agricultural Commercial/ Industrial Outbuildings may suffice in assigning many archaeological sites to this property type, documentary research must be undertaken to confirm the attribution and to identify Agricultural Commercial/ Industrial Outbuildings not definable from the physical evidence alone, or at least to identify the farm on which the Outbuilding(s) were located. Documentary sources such as deeds, tax assessments, agricultural census manuscript schedules, maps and atlases, probate records, Orphans' Court records, road papers, and insurance policy surveys, along with information collected through oral history will in most cases allow a site of the 1830-1940 period to be identified as an Agricultural Commercial/ Industrial Outbuilding. These sources and others may also yield descriptions of the Outbuilding and other significant

information on its function, on the farm's agricultural and industrial production and/ or its commercial activities, and on the farm's sociocultural context.

C. Locational Patterns of Property Types

Simply put, these property types associated with the archaeology of agriculture and farm life in New Castle and Kent counties, 1830-1940, are ubiquitous. As the Historic Context narrative has documented, most of the counties' residents living outside of Wilmington worked and often lived on farms throughout the period. Moreover, farms and thus agricultural property types were distributed across the geographical zones considered in this historic context: Piedmont, Upper Peninsula, Coastal, and a small portion of the Lower Peninsula. All stood close to a transportation artery: depending on the time period and area, either a river or creek, road, or railroad (Figures 3-11; see also Baist 1893; Beers 1868; Byles 1859; Price and Rea 1850; Rea and Price 1849). Beyond this generalization, data collected by the context's authors and other researchers allow for a somewhat more detailed description of the property types' numbers and distributions, and how these changed over time. These data are summarized here from the **V. HISTORIC CONTEXT NARRATIVE** and **IX. EVALUATION OF INVENTORIED HISTORICAL ARCHAEOLOGICAL RESOURCES ASSOCIATED WITH THE HISTORIC CONTEXT.**

The archaeological units of study for this historic context are, first, New Castle's and Kent's farms dating to the 1830 to 1940 period and, second, other properties that housed agricultural workers. Bausman has compiled from census data the number of farms in New Castle and Kent counties for each decade between 1860 and 1930; the figures for 1940 are available also (Table 75). New Castle contained between 1,567 and 2,208 farms during this period, the number peaking in 1910. Kent contained between 1,948 and 3,120 farms, with the peak also reached in 1910. Unfortunately, these figures do not tell us the total number of farms (as farms were broken up, the land put to other uses, and then in some cases returned to agriculture as new farms were again created during periods of favorable economic conditions) that existed in each county across the study period or the total number of archaeological sites that may potentially be associated with each property type. Researchers have documented that between 1830 and at least 1900 about one-half of the farms were occupied and operated by tenants (Siders et al. 1991: 3; see also **V. HISTORIC CONTEXT NARRATIVE**).

In 1850, Michel concluded, farms in New Castle's northern Piedmont hundreds were smaller, more numerous, and more densely concentrated than to the south. Farmers also relied less on off-farm labor; thus Agricultural Dwellings not located on farms would have been comparatively few in number in this zone during this

TABLE 75

NUMBER OF FARMS, NEW CASTLE AND KENT COUNTIES, 1860-1940
(Sources: Bausman 1940: 10; Bausman 1941: 7,
U.S. Bureau of the Census 1942: 16)

YEAR	DELAWARE	NEW CASTLE COUNTY	KENT COUNTY
1860	6608	1689	1948
1870	7615	1787	2309
1880	8749	2061	2473
1890	9381	2180	2740
1900	9687	2088	2814
1910	10836	2208	3120
1920	10140	1825	2911
1925	10257	1967	3043
1930	9707	1839	2874
1940	8994	1587	2742

period. Mill Creek Hundred, for example, contained 299 farms in 1837, perhaps 160 of them tenanted, and 321 in 1861, with perhaps 200 of them operated by tenants. Five hundred sixty houses stood on the hundred's 299 farms in 1837, along with 418 barns, 26 stables, and 1 barracks. In 1861, the hundred's farms housed 630 dwellings, 520 barns, and 15 stables. In the large farm-wheat belt of southern New Castle, according to Michel, farms stood farther apart, had higher rates of tenancy, and their operators relied more heavily on off-farm labor. In Appoquinimink Hundred in 1850, for example, the census takers recorded 291 heads of household engaged in farming. Twenty years later, this number had increased to 348; another 240 households were headed by laborers, many of whom were employed at least part-time on farms. Kent County farms during this period were also generally larger than Piedmont farms and more widely distributed across the landscape. For example, 178 farmers resided in Little Creek Hundred in 1860. Ninety-five owned their own farms. In addition, 237 other household heads reported their occupation as laborer, and most probably worked as agricultural laborers at least part of the year. Another 234 farm hands resided in the households of others.

In the portions of New Castle County that lie within the Upper Peninsula, where Herman has studied the architecture, he discovered that the rebuilding of the region's farms between the mid-1830s and about 1870 took place at the expense of the existing, older but yet substantial building stock. Houses and farm outbuildings were often first adapted for new uses, especially as tenant houses, but as the decades progressed, they were demolished, replaced with new houses for tenants too. This suggests that the numbers of farms, houses, and agricultural outbuildings reported in any single year in census and tax assessments underestimate the numbers of Agricultural Complexes, Agricultural Dwellings, and Agricultural Outbuildings represented in the archaeological record.

In 1880, of the 2,061 farms in New Castle County, 1,220 were operated by their owners, 271 by cash tenants, and 570 rented on shares. Of the 2,473 farms in Kent County that year, 1,313 were owner-operated, 134 rented for a fixed rate, and 1,026 rented on shares. Mayer's data on individual hundreds indicates that in the Piedmont hundreds of Brandywine and Christiana that year, between two-thirds and three-quarters of the farms were owner-operated. In comparison, owners operated only approximately one-half of the farms in the Upper Peninsula hundreds of St. Georges and Appoquinimink. By the turn of the century, only 942 New Castle farmers, 45%, owned their own farms. The number rose to 1,142, 52%, a decade later, but then dropped again to one-half in 1920. Over the same period, the number of Kent farmers operating their own farms increased from 1,147 to 1,578, representing between 41% and 54%. Farm managers had charge of very few farms in both counties; most of those not owner-operated were tenanted, primarily by share tenants.

Of especial import for locational patterning studies are Bausman's computations and mapping of the relationships between soil types, the four agricultural land classes he defined in New Castle and Kent counties in the mid-1930s, and the distribution and condition of farm buildings. In both counties, Sassafras series soils correlated highly with Class IV lands, the best for agricultural use (Tables 76 and 77; see also maps accompanying Bausman 1940, 1941). More than one-third of the Class I lands, those virtually abandoned by farmers by the mid-1930s, stood in marsh. Plotting the distribution of farmhouses and other buildings across the four land classes revealed that in New Castle County in 1937 90% of the farmhouses stood on Class III and IV lands (Table 78). In addition, Bausman notes, "there were 168 unclassified buildings, such as tenant houses, which were located apart from the farmsteads but were used in conjunction with the farmsteads" (Bausman 1941: 41). Bausman and his fieldworkers counted more than twice the number of farmsteads in Kent County in 1936, of which 88% stood on Class III and IV lands (Table 79). Kent contained many more "unclassified" buildings (445) such as tenant houses, too, located away from the farmstead but used as housing and for other farm-related purposes.

After studying the distribution of nineteenth and first half of the twentieth-century agricultural complexes and tenancies in the original study area for the proposed Route 13 realignment corridor, the project archaeologists concluded:

> Choices in settlement location were no longer constrained by water accessibility and major settlement expansion was felt in the upland zones between watersheds, especially on the high, well drained soils along the drainage divide separating the Chesapeake Bay and Delaware River-Delaware Bay watersheds... New roads linked the older transportation system and the newly established canal and railroad routes...
>
> The substantial number of agricultural tenant dwellings and farms in the region indicates the presence of a large body of landless agricultural laborers. The distibutional pattern of agricultural tenant-related structures in rural areas indicated the majority were situated close to the roadways...(Custer et al. 1984: 109-112).

Following up on the initial Reconnaissance Planning Study, Custer and Grettler analyzed the location of 1,859 historic sites in the Route 13 project area. These sites included 185 agricultural complexes occupied originally between 1820 and 1850, 427 occupied originally between 1850 and 1880, and 114 occupied originally between 1880 and 1940. In addition, for the same three time periods respectively, 44, 296, and 38 agricultural tenant complexes were included (Custer and Grettler 1991: 7). Statistical analysis revealed that the agricultural sites tended to be located

TABLE 76

PERCENTAGE DISTRIBUTION OF THE GENERAL SOIL TYPES BY LAND CLASSES, NEW CASTLE COUNTY, DELAWARE, 1937
(Source: Bausman 1941: 38, Table 13)

General soil types	Land classes				County[6]
	I, Im, IR, and IRm	II & IIR	III & IIIR	IV & IVR	
	per cent	per cent	per cent	per cent	per cent
Sassafras series[1]	27.3	32.8	47.5	84.9	52.4
Chester series[2]	11.7	36.0	27.3	1.2	15.4
Elkton series[3]	20.2	14.6	10.1	8.8	12.9
Leonardtown series[4]	5.0	8.9	12.5	3.0	7.1
Cecil series[5]	1.0	.8	.5	0	.5
Marsh	34.8	6.9	2.1	2.1	11.7
Total	100.0	100.0	100.0	100.0	100.0
Acres of land in each land class[7]	73,469	20,131	84,960	81,792	260,352[10]
Per cent error	—.003[8]	+.2[9]	+.2[9]	+2.2[9]	+.8[8]

[1] Includes Sassafras Loamy Sand, Sassafras Loam, Sassafras Gravelly Loam, Sassafras Sandy Loam, Sassafras Silt Loam, and Sassafras Silt Loam (Shallow Phase).
[2] Chester Loam and Chester Silt Loam.
[3] Elkton Loam, Elkton Sandy Loam, and Elkton Silt Loam.
[4] Leonardtown Silt Loam. The name of this soil type has more recently been changed to Woodstown Silt Loam.
[5] Cecil Clay Loam.
[6] Land occupied by industrial and residential areas not included.
[7] The areas of Codorus Silt Loam were too small to measure separately with the method herein used.
[8] Calculated by using as the base, planimeter measurements made of the county by the Division of Land Economics of the U. S. Bureau of Agricultural Economics.
[9] Calculated by using as the base, planimeter measurements made of the land classes by the Department of Agricultural Economics, Delaware Agricultural Experiment Station.
[10] The 15,745 acres of land used for residential and industrial purposes are not included.

TABLE 77

PERCENTAGE DISTRIBUTION OF THE GENERAL SOIL TYPES BY LAND CLASSES, KENT COUNTY, DELAWARE, 1936
(Source: Bausman 1940: 43, Table 17)

General soil types	Land classes				County
	I & IM	II	III	IV	
	per cent	per cent	per cent	per cent	per cent
Sassafras series[1]	24.3	34.3	57.0	86.3	51.7
Elkton series[2]	20.9	33.3	26.9	6.5	19.3
Portsmouth series[3]	15.4	23.7	10.5	1.2	10.5
Leonardtown series[4]	1.3	3.0	2.0	.7	1.4
Marsh[5]	38.1	5.7	3.6	5.3	17.1
Total	100.0	100.0	100.0	100.0	100.0
Acres in each land class (land and internal water)	143,810	20,510	113,550	107,360	385,230
Per cent error	+.1	+6.0	+4.0	—4.0[7]	+.3[6]

[1] Includes Sassafras Sand, Sassafras Loamy Sand, Sassafras Sandy Loam, Sassafras Sandy Loam (deep phase), Sassafras Loam, Sassafras Silt Loam, and Sassafras Silt Loam (level phase).
[2] Elkton Sandy Loam, Elkton Loam, and Elkton Silt Loam.
[3] Portsmouth Sandy Loam, Portsmouth Loam, and Portsmouth Silt Loam.
[4] Includes Leonardtown Sandy Loam and Leonardtown Loam.
[5] Includes some coastal beach, the area of which was too small to measure with the method herein used.
[6] Calculated by using as the base, planimeter measurements made of the county by the Division of Land Economics of the United States Bureau of Agricultural Economics.
[7] Calculated by using as the base, planimeter measurements made of the land classes by the Department of Agricultural Economics, Delaware Agricultural Experiment Station.

TABLE 78

NUMBER OF FARMSTEADS, RURAL RESIDENCES, AND OTHER BUILDINGS, OCCUPIED OR VACANT, BY LAND CLASSES, NEW CASTLE COUNTY, DELAWARE, 1937
(Source: Bausman 1941: 41, Table 17)

Classes of buildings	Land classes				County
	I & IR	II & IIR	III & IIIR	IV & IVR	
	number	number	number	number	number
Farmsteads					
Occupied	62	83	781	488	1,414
Vacant	2	2	4	1	9
Rural residences					
Occupied					
Good	224	170	854	199	1,447
Poor	74	33	78	46	231
Unoccupied					
Good	5	1	4	1	11
Poor	12	5	18	16	51
Other buildings[2]					
Occupied	48	29	139	60	276
Vacant	3	3	8	4	18
Buildings standing but unusable	85	61	130	95	371
Total	515	387	2,016	910	3,828

[1] In addition there were 168 unclassified buildings, such as tenant houses, which were located apart from the farmsteads but were used in conjunction with the farmsteads.
[2] Includes school houses, churches, and commercial establishments.
No count was made of hamlets and towns having 20 or more houses.

TABLE 79

NUMBER OF FARMSTEADS, RURAL RESIDENCES, AND OTHER BUILDINGS, OCCUPIED OR VACANT, BY LAND CLASSES, KENT COUNTY, DELAWARE, 1936
(Source: Bausman 1940: 45, Table 21)

Classes of buildings	Land classes				County
	I	II	III	IV	
	number	number	number	number	number
Farmsteads					
Occupied	114	241	1,580	1,058	2,993
Vacant	—	2	4	1	7
Rural residences					
Occupied					
Good	18	11	82	147	258
Poor	64	39	125	117	345
Unoccupied					
Good	2	1	1	3	7
Poor	8	6	13	8	35
Other buildings[2]					
Occupied	27	13	88	116	244
Vacant	12	4	23	13	52
Buildings standing but unusable	13	15	32	26	86
Buildings gone or falling[2]	64	43	96	86	289
Total	322	375	2,044	1,575	4,316

[1] In addition there were 445 unclassified buildings, such as tenant houses, which were located apart from the farmsteads but were used in conjunction with the farmsteads.
[2] Buildings gone were shown on the United States Geological Survey maps. Approximately one-third of the maps in Kent County, were surveyed in 1917, one-half were surveyed in 1926 and one-sixth in 1933.
[3] Includes school houses, churches, and commercial establishments.
No count was made of hamlets and towns having 20 or more houses.

on the soils highest in productivity for raising grains, grazing, and woodlots. In New Castle County, owner-operated farms especially maximized inclusion of high productivity agricultural and woodlot soils, while tenant farms maximized well-drained soils of all types. Tenant farms in Kent County, in contrast, were not located on the highest quality soils; however, after 1880, they did tend to be established on more productive soils (Custer and Grettler 1991: 14, 32-33). Almost one-third of the sites were located within 300 feet of a stream, and more than one-half within 900 feet. Before 1850, sites were furthest from a source of water; after that date, they are more consistently located closer to water (Custer and Grettler 1991: 38-41). Measuring distance to water transportation, farms established after 1820 lay a mean of 1.25 miles from, and at considerably varied distances from, water transportation. Distance to crossroads varied over time. Owner-operated farms established between 1820 and 1850 lay furthest from crossroads, while those created after 1850 lay furthest from railroad depots (Custer and Grettler 1991: 50, 68-71).

The Route 13 Reconnaissance Planning Study, because it considered such a large land area in New Castle and Kent counties (Figure 3), provides a useful guide to the relative numbers of sites associated with each archaeological property type (as defined at the time of the study) (Table 80). The property types Agricultural Complex-Peaches, Agricultural Estate, and Agricultural Complex, along with some of the Agricultural Tenant Dwelling/Farm sites, equate with the property type Agricultural Complex proposed in this context. The balance of the Agricultural Tenant Dwelling/Farm sites would fall under the proposed Agricultural Dwelling. Slave Quarters and Migrant Worker Houses have been combined into one property type, Agricultural Quarter, in this context, while Agricultural Outbuildings keep the same title. Agricultural and Mill Complexes are one subtype within the proposed Agricultural Commercial/ Industrial Complexes; neither Agricultural Transport Facilities nor Agricultural Structures were distinguished as separate property types in the Route 13 Reconnaissance Planning Study. The study clearly demonstrated the predominance of Agricultural Complexes on the landscape of New Castle and Kent counties, followed by Agricultural Tenancies (both dwellings and farm complexes) (see also Siders et al. 1991: 26-34 for the numbers of tenant farms in Appoquinimink, Little Creek, and Murderkill hundreds at various points in the nineteenth century).

A few final comments can be offered on the distributions of Agricultural Quarters and Agricultural Transport Facilities. Between 1830 and 1862, when the Emancipation Proclamation finally ended slavery in Delaware, the number of slaves in the state's northern counties was small, and most lived alone or with one or only a few others on the counties' farms. In Murderkill Hundred, for example, "slaves represented less than 10% of the African-American population from 1810 on; Little Creek Hundred's slaves were less than 8% of the African-American population from 1820

TABLE 80

SUMMARY OF KNOWN AND POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES (AGRICULTURE), 1803-1950, ROUTE 13 PLANNING CORRIDOR, NEW CASTLE AND KENT COUNTIES

(From Custer et al. 1984: 36-43)

NEW CASTLE COUNTY

	AGR. CPX. PECH	AGR. EST.	AGR. TEN. D/F	SLV. QTR.	MIC. WRK. HSE.	AGR. CPX.	AGR. O/B.	AGR./ MILL CPX.	TOTALS
APPOQUINIMINK HD.									
1803-1868	0	1	56	0	0	81	1	0	139
1869-1910	1	0	5	0	0	7	0	0	13
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	1	1	61	0	0	88	1	0	152
BLACKBIRD HD.									
1803-1868	2	1	37	0	0	111	0	0	151
1869-1910	0	0	6	0	0	18	0	0	24
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	2	1	43	0	0	129	0	0	175
ST. GEORGES HD.									
1803-1868	13	7	85	2	0	124	0	0	231
1869-1910	0	1	17	0	0	4	1	0	23
1911-1950	0	0	0	0	0	1	0	0	1
TOTAL	13	8	102	2	0	129	1	0	255
RED LION HD.									
1803-1868	1	4	31	0	0	38	0	0	74
1869-1910	0	1	3	0	0	7	0	0	11
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	1	5	34	0	0	45	0	0	85
PENCADER HD.									
1803-1868	0	2	7	0	0	8	0	0	17
1869-1910	0	1	0	0	0	0	0	0	1
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	0	3	7	0	0	8	0	0	18
NEW CASTLE HD.									
1803-1868	0	0	9	0	0	3	0	0	12
1869-1910	0	0	1	0	0	1	0	0	2
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	0	0	10	0	0	4	0	0	14
GRAND TOTALS, NEW CASTLE COUNTY									
1803-1868	16	15	225	2	0	365	1	0	624
1869-1910	1	3	32	0	0	37	1	0	74
1911-1950	0	0	0	0	0	1	0	0	1
	17	18	257	2	0	403	2	0	699

TABLE 80 (cont.)

KENT COUNTY

	AGR. CPX. PECH	AGR. EST.	AGR. TEN. D/F	SLV. QTR.	MIG. WRK. HSE.	AGR. CPX.	AGR. O/B.	AGR./ MILL CPX.	TOTALS
LITTLE CREEK HD.									
1803-1868	0	1	30	0	0	62	0	0	93
1869-1910	0	0	0	0	0	0	0	0	0
1911-1950	0	0	0	0	1	0	0	0	1
TOTAL	0	1	30	0	1	62	0	0	94
KENTON HD.									
1803-1868	0	5	37	0	0	60	0	2	104
1869-1910	0	0	6	0	0	6	2	0	8
1911-1950	0	0	0	0	0	2	0	0	2
TOTAL	0	5	43	0	0	68	2	2	114
DUCK CREEK HD.									
1803-1868	1	0	42	0	0	46	0	0	89
1869-1910	0	0	1	0	0	1	1	0	3
1911-1950	0	1	3	0	0	0	0	0	4
TOTAL	1	1	46	0	0	47	1	0	96
NORTH MURDERKILL HD.									
1803-1868	1	0	4	0	0	49	0	1	55
1869-1910	0	0	0	0	0	14	1	1	16
1911-1950	0	0	0	0	0	2	0	0	2
TOTAL	1	0	4	0	0	65	1	2	73
SOUTH MURDERKILL HD.									
1803-1868	0	0	3	0	0	27	0	0	30
1869-1910	0	0	0	0	0	2	0	0	2
1911-1950	0	0	0	0	0	1	0	0	1
TOTAL	0	0	3	0	0	30	0	0	33
EAST DOVER HD.									
1803-1868	0	0	13	0	0	50	0	0	63
1869-1910	0	0	0	0	0	7	0	0	7
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	0	0	13	0	0	57	0	0	70
WEST DOVER HD.									
1803-1868	0	0	0	0	0	3	0	0	3
1869-1910	0	0	0	0	0	1	0	0	1
1911-1950	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	4	0	0	4

TABLE 80 (cont.)

GRAND TOTALS, KENT COUNTY

	AGR. CPX. PECH	AGR. EST.	AGR. TEN. D/F	SLV. QTR.	MIG. WRK. HSE.	AGR. CPX.	AGR. O/B.	AGR./ MILL CPX.	TOTALS
1803-1868	2	6	129	0	0	297	0	3	437
1869-1910	0	0	1	0	0	31	4	1	37
1911-1950	0	1	3	0	1	5	0	0	10
	2	7	133	0	1	333	4	4	484

GRAND TOTALS, NEW CASTLE AND KENT COUNTY

1803-1868	18	21	354	2	0	662	1	3	1061
1869-1910	1	3	33	0	0	68	5	1	111
1911-1950	0	1	3	0	1	6	0	0	11
	19	25	390	2	1	736	6	4	1183

KEY

AGR. CPX. PECH = AGRICULTURAL COMPLEX, PEACHES
AGR. EST. = AGRICULTURAL ESTATE
AGR. TEN. D/F = AGRICULTURAL TENANT DWELLING/FARM
SLV. QTR. = SLAVE QUARTERS
MIG. WRK. HSE. = MIGRANT WORKER HOUSE
AGR. CPX. = AGRICULTURAL COMPLEX
AGR. O/B. = AGRICULTURAL OUTBUILDINGS
AGR./MILL CPX = AGRICULTURAL & MILL COMPLEX

through 1860. Appoquinimink Hundred relied on slaves in greater proportions for a much longer period--slaves did not drop below 8% of the total population until 1840 [probably because portions of Appoquinimink lay within the wheat belt of large farms, where slaves formed a more important component of the labor force]. In Kent County, slaves were a minority group from 1800 on, representing less than one-quarter of the African-American population" (Siders et al. 1991: 73; see also De Cunzo and Catts 1990: 75). Thus Agricultural Quarters associated with this historic context that housed slaves should be few in number and concentrated principally in the large farm-wheat belt of central and southern New Castle County (Figure 42). Sufficient information has not yet been compiled to estimate the distribution of Agricultural Quarters that housed migrant workers in the later nineteenth century and first four decades of the twentieth century.

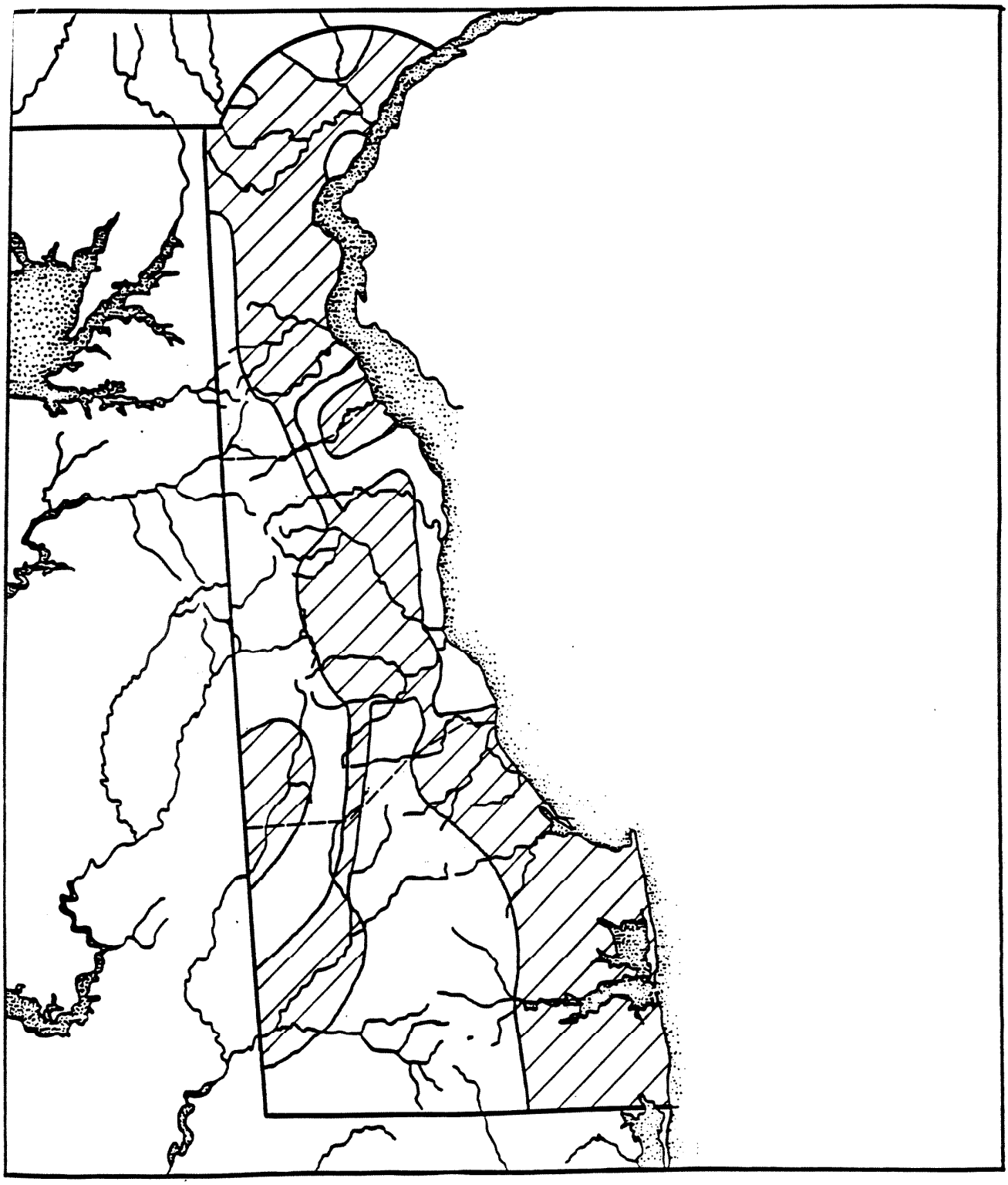
The setting and distribution of Agricultural Transport Facilities, in contrast, can be predicted with greater accuracy. Agricultural Landing Complexes will lie along the principal creeks and rivers flowing eastward toward the Delaware River and Bay: from north to south, the Brandywine Creek, Red Clay Creek, White Clay Creek, Christina River, Naaman's Creek, Red Lion Creek, St. Georges Creek, Appoquinimink/ Drawyers Creeks, Blackbird Creek, Duck Creek, Leipsic River, Little Creek, St. Jones River, the Murderkill River, and the Mispillion River. Moreover, they will be concentrated in the eastern extremities of these creeks and rivers, with their distributions reaching westward or upstream as far as the watercourse was navigable. Agricultural Transport Facilities (Railroad/ Road), as noted above, will be situated adjacent to the transportation artery with which they were associated, either a road or the railroad. Although further research is required, it is assumed few farmers had private Agricultural Transport Facilities along the railroad corridors. Roadside Agricultural Transport Facilities are expected to be much more numerous and widely distributed. Although their physical characteristics may be expected to change over the 1830-1940 period as modes of road transport changed, nevertheless examples of this property type existed throughout the period of this historic context.

D. Current Condition of the Property Types

The Management Plan for Delaware's Historical Archaeological Resources identified erosion, agricultural practices, and development as the three most important categories of impacts and stresses on Delaware's archaeological resources (De Cunzo and Catts 1990: 171, 177-182, following Custer 1986: 199-205). A composite map, plotting all of these as "Threatened Areas," is included here (Figure 43). Archaeological sites of all property types located in these areas, which cover a large portion of New Castle and Kent counties, are at risk and are being lost on a regular basis.

FIGURE 43

AREAS IN WHICH HISTORICAL ARCHAEOLOGICAL RESOURCES ARE THREATENED BY EROSION, AGRICULTURAL PRACTICES, AND DEVELOPMENT
(Source: De Cunzo and Catts 1990: 183, Figure 14)



The Route 13 and Route 301 planning studies have provided another measure of the current condition of the archaeological property types associated with this historic context. Each study compared the number of standing buildings of each property type with the number of potential archaeological sites identified through documentary research, primarily surveys of historic maps. In the original Route 13 study area, only Agricultural Complexes, Agricultural Tenant Dwellings/Farms, and Dwelling Complexes occurred in any numbers (Table 81). The figures in Table 81 are skewed, as the standing building category was computed from the state's inventory of standing buildings, which remains incomplete even today. Thus, archaeological sites associated with standing buildings are underrepresented to an indeterminate extent in the table. Nevertheless, it gives an indication of the proportion of archaeological sites associated with this historic context that still contain extant buildings, as well as the variability in the proportions among the study hundreds. (Note also that the entire land area of most of the hundreds did not lie within the project area; Figure 3.)

The percentage of archaeological sites of Agricultural Complexes at which no buildings survive ranged between 25% in New Castle and West Dover hundreds (only small portions of both hundreds lay in the project area) and 60-61% in Appoquinimink and East Dover hundreds. The percentage of archaeological sites of Agricultural Tenant Dwellings/ Farms at which no buildings survive ranged between 20% in North Murderkill and 100% in South Murderkill. In nine of the 13 study hundreds, however, the percentage was over 80%, considerably higher than in the case of Agricultural Complexes. The percentage of archaeological sites of Dwelling Complexes at which no buildings survive ranged between 3% in Duck Creek and 73% in Pencader, with considerable variability in between. The minimal numbers of recorded and potential surviving and non-extant sites of Agricultural Outbuildings, Agricultural Quarters, Agricultural Transport Facilities, and Agricultural Structures reflects their smaller numbers on the landscape between 1830 and 1940, their lower survival rates, their comparative invisibility in the documentary records, their often low visibility in the archaeological record, and the nonrepresentative nature of the areas field surveyed for the presence of historical archaeological resources. As a result, it is most difficult to evaluate their current condition.

The Route 301 planning study enumerated Agricultural Complexes and Agricultural Tenancies in each hundred lying at least partly within the project area, distinguishing those already listed in the state archaeological site inventory, those already listed in the state standing building inventory, potential standing buildings, and potential archaeological sites (Table 82). These data indicate that for the entire project area, only 31% of the potential standing buildings associated with Agricultural Complexes and Agricultural Tenancies are currently included in the state

TABLE 81

POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES ASSOCIATED WITH AGRICULTURE, NEW CASTLE AND KENT COUNTIES, 1830-1940, ROUTE 13 PRELIMINARY STUDY CORRIDOR: NUMBERS OF POTENTIAL SITES WITH AND WITHOUT STANDING BUILDINGS
(Source: Custer et al. 1984: 156-215)

	ASSOCIATED WITH STANDING BUILDING(S)*		NO STANDING BUILDING(S)**		
	#	%	#	%	TOTAL
APPOQUINIMINK					
AGRICULTURAL OUTBUILDING	1	100	0	0	1
AGRICULTURAL COMPLEX	38	40	58	60	96
AGRICULTURAL-MILL COMPLEX	1	50	1	50	2
AGRICULTURAL TENANT DWELLING/FARM	12	20	49	80	61
DWELLING COMPLEX	29	62	18	38	47
ESTATE	2	67	1	33	3
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0
BLACKBIRD					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	47	35	88	65	135
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	1	2	42	98	43
DWELLING COMPLEX	5	55	4	45	9
ESTATE	1	33	2	67	3
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	2	100	0	0	2
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	1	100	1
DUCK CREEK					
AGRICULTURAL OUTBUILDING	1	100	0	0	1
AGRICULTURAL COMPLEX	36	67	18	33	54
AGRICULTURAL-MILL COMPLEX	2	100	0	0	2
AGRICULTURAL TENANT DWELLING/FARM	8	19	35	81	43
DWELLING COMPLEX	35	97	1	3	36
ESTATE	6	100	0	0	6
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	1	100	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0

TABLE 81 (cont.)

POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES ASSOCIATED WITH AGRICULTURE, NEW CASTLE AND KENT COUNTIES, 1830-1940, ROUTE 13 PRELIMINARY STUDY CORRIDOR: NUMBERS OF POTENTIAL SITES WITH AND WITHOUT STANDING BUILDINGS
(Source: Custer et al. 1984: 156-215)

	ASSOCIATED WITH STANDING BUILDING(S)*		NO STANDING BUILDING(S)**		
	#	%	#	%	TOTAL
EAST DOVER					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	25	39	39	61	64
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	0	0	13	100	13
DWELLING COMPLEX	5	62	3	38	8
ESTATE	0	0	0	0	0
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0
KENTON					
AGRICULTURAL OUTBUILDING	2	100	0	0	2
AGRICULTURAL COMPLEX	47	62	29	38	76
AGRICULTURAL-MILL COMPLEX	2	50	2	50	4
AGRICULTURAL TENANT DWELLING/FARM	6	16	31	84	37
DWELLING COMPLEX	13	81	3	19	16
ESTATE	3	75	1	25	4
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	1	100	0	0	1
LITTLE CREEK					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	28	41	40	59	68
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	6	20	24	80	30
DWELLING COMPLEX	15	79	4	21	19
ESTATE	1	100	0	0	0
MIGRANT WORKER HOUSE	1	100	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	1	50	1	50	2

TABLE 81 (cont.)

POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES ASSOCIATED WITH AGRICULTURE, NEW CASTLE AND KENT COUNTIES, 1830-1940, ROUTE 13 PRELIMINARY STUDY CORRIDOR: NUMBERS OF POTENTIAL SITES WITH AND WITHOUT STANDING BUILDINGS
(Source: Custer et al. 1984: 156-215)

	ASSOCIATED WITH STANDING BUILDING(S)*		NO STANDING BUILDING(S)**		
	#	%	#	%	TOTAL
NEW CASTLE					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	3	75	1	25	4
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	3	30	7	70	10
DWELLING COMPLEX	3	100	0	0	3
ESTATE	0	0	0	0	0
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	1	100	1
ORTH MURDERKILL					
AGRICULTURAL OUTBUILDING	2	100	0	0	2
AGRICULTURAL COMPLEX	42	64	24	36	66
AGRICULTURAL-MILL COMPLEX	2	100	0	0	2
AGRICULTURAL TENANT DWELLING/FARM	4	80	1	20	5
DWELLING COMPLEX	25	100	0	0	25
ESTATE	0	0	0	0	0
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0
PENCADER					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	7	58	5	42	12
AGRICULTURAL-MILL COMPLEX	0	0	1	100	1
AGRICULTURAL TENANT DWELLING/FARM	0	0	9	100	9
DWELLING COMPLEX	3	27	8	73	11
ESTATE	3	75	1	25	4
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	1	100	1

TABLE 81 (cont.)

POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES ASSOCIATED WITH AGRICULTURE, NEW CASTLE AND KENT COUNTIES, 1830-1940, ROUTE 13 PRELIMINARY STUDY CORRIDOR: NUMBERS OF POTENTIAL SITES WITH AND WITHOUT STANDING BUILDINGS (Source: Custer et al. 1984: 156-215)

	ASSOCIATED WITH STANDING BUILDING(S)*		NO STANDING BUILDING(S)**		
	#	%	#	%	TOTAL
RED LION					
AGRICULTURAL OUTBUILDING	1	100	0	0	1
AGRICULTURAL COMPLEX	20	41	29	59	49
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	2	6	32	94	34
DWELLING COMPLEX	9	30	21	70	30
ESTATE	5	71	2	29	7
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	1	100	0	0	1
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0
ST. GEORGES					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	51	50	51	50	102
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	9	8	108	92	117
DWELLING COMPLEX	26	52	24	48	50
ESTATE	5	62	3	38	8
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	10	100	0	0	10
SLAVE QUARTERS	2	100	0	0	2
TENANT HOUSE	1	20	4	80	5
SOUTH MURDERKILL					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	20	65	11	35	31
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	0	0	3	100	3
DWELLING COMPLEX	2	100	0	0	2
ESTATE	0	0	0	0	0
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0

TABLE 81 (cont.)

POTENTIAL HISTORICAL ARCHAEOLOGICAL SITES ASSOCIATED WITH AGRICULTURE, NEW CASTLE AND KENT COUNTIES, 1830-1940, ROUTE 13 PRELIMINARY STUDY CORRIDOR: NUMBERS OF POTENTIAL SITES WITH AND WITHOUT STANDING BUILDINGS
(Source: Custer et al. 1984: 156-215)

	ASSOCIATED WITH STANDING BUILDING(S)*		NO STANDING BUILDING(S)**		
	#	%	#	%	TOTAL
EST DOVER					
AGRICULTURAL OUTBUILDING	0	0	0	0	0
AGRICULTURAL COMPLEX	3	75	1	25	4
AGRICULTURAL-MILL COMPLEX	0	0	0	0	0
AGRICULTURAL TENANT DWELLING/FARM	0	0	0	0	0
DWELLING COMPLEX	1	100	0	0	1
ESTATE	0	0	0	0	0
MIGRANT WORKER HOUSE	0	0	0	0	0
PEACH HOUSE	0	0	0	0	0
SLAVE QUARTERS	0	0	0	0	0
TENANT HOUSE	0	0	0	0	0

* Identified in State Inventory of Standing Buildings
* Identified through map research

HISTORICAL RESOURCES IDENTIFIED IN PLANNING STUDY OF ROUTE 301 PROJECT AREA, NEW CASTLE COUNTY, 1830-1940

(Soruce: Kellogg 1992: Tables 7-13)

1830-1880

HUNDRED AND PROPERTY TYPE	H.A.S.	I.S.B.*	P.S.B.*	P.A.S.*	TOTALS
APPOQUINIMINK					
AGRICULTURAL COMPLEX	0	0	1	2	3
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	0	1	2	3
NEW CASTLE					
AGRICULTURAL COMPLEX	1	5	15	11	32
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	1	5	15	11	32
PENCADER					
AGRICULTURAL COMPLEX	2	13	71	38	124
AGRICULTURAL TENANCY	2	0	0	0	2
TOTAL	4	13	71	38	126
RED LION					
AGRICULTURAL COMPLEX	0	8	4	11	23
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	8	4	11	23
ST. GEORGES					
AGRICULTURAL COMPLEX	0	28	18	16	62
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	28	18	16	62
WHITE CLAY CREEK					
AGRICULTURAL COMPLEX	0	2	13	8	23
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	2	13	8	23
GRAND TOTAL	5	56	122	86	269

* Does Not Separate Agricultural Complexes and Tenancies

H.A.S. = Historical Archaeological Sites
I.S.B. = Inventoried Standing Buildings
P.S.B. = Potential Standing Buildings
P.A.S. = Potential Archaeological Sites

TABLE 82 (cont.)

1880-1940

HUNDRED AND PROPERTY TYPE	H.A.S.	I.S.B.*	P.S.B.*	P.A.S.*	TOTALS
APPOQUINIMINK					
AGRICULTURAL COMPLEX	0	0	1	1	2
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	0	1	1	2
NEW CASTLE					
AGRICULTURAL COMPLEX	0	1	0	1	2
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	1	0	1	2
PENCADER					
AGRICULTURAL COMPLEX	0	2	2	5	9
AGRICULTURAL TENANCY	1	0	0	0	1
TOTAL	1	2	2	5	10
RED LION					
AGRICULTURAL COMPLEX	0	1	1	1	3
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	1	1	1	3
ST. GEORGES					
AGRICULTURAL COMPLEX	0	1	2	3	6
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	1	2	3	6
WHITE CLAY CREEK					
AGRICULTURAL COMPLEX	0	1	1	2	4
AGRICULTURAL TENANCY	0	0	0	0	0
TOTAL	0	1	1	2	4
GRAND TOTAL	1	6	7	13	27

* Does Not Separate Agricultural Complexes and Tenancies

H.A.S. = Historical Archaeological Sites
I.S.S. = Inventoried Standing Buildings
P.S.S. = Potential Standing Buildings
P.A.S. = Potential Archaeological Sites

inventory of standing buildings. Thus that inventory, like that for archaeological sites, is far from complete. The data also suggest that perhaps only one-third of the Agricultural Complexes and Agricultural Tenancies in the project area no longer have standing buildings associated with them. The University of Delaware Center for Historic Architecture and Engineering field checked the Agricultural Tenancies identified in the 1860 tax assessment records for Little Creek and Murderkill hundreds and found, in contrast, that only about one-third of them do survive today (Siders et al. 1991: 22). The differences are probably due in part to geographic location, but also to the difference in survival rates between Agricultural Complexes and Tenancies, as demonstrated in the Route 13 study.

Finally, Bausman's studies in the 1930s document the survival and condition of farm buildings in New Castle and Kent counties at that time. In New Castle County, he and his fieldworkers counted 460 farm buildings and rural dwellings that still stood but were vacant and in many cases uninhabitable, suggesting most of them have since disappeared from the landscape (Table 78). This figure does not include 168 tenant houses and other unclassified farm buildings associated with farms; even so, it represents 12% of the county's farm buildings and rural residences extant in 1937. More than one-third of them stood on Class III lands, another one-quarter on Class IV lands, where the most successful and well-maintained farms were located, and almost another one-quarter stood on Class I land. In Kent County, they counted 476 farm buildings and rural dwellings that still stood, although many were uninhabitable or were in ruins. Most of these too have since disappeared from Kent's landscape (Table 79). This figure excludes another 445 unclassified tenant houses and other farm buildings; it still represents 11% of the county's farm buildings and rural residences extant in 1936. As in New Castle County, more than one-third stood on Class III lands, and another 29% on Class IV lands. In both counties, then, more buildings threatened with loss through deterioration in the 1930s stood on the better agricultural lands. Those on the poorer lands had probably been fewer to begin with, and lost before the 1930s, surviving only as archaeological sites.

In summary, then, archaeological sites associated with all the historic context's property types are at risk in large numbers in New Castle and Kent counties as a result of the threats posed by erosion, agricultural practices, and development. Agricultural Landing Complexes are especially subject to destruction by erosion. Similarly, the sites of all property types with no standing buildings but located on land currently cultivated are threatened by agricultural practices and erosion resulting from those practices. Fewer Agricultural Dwellings from the study period appear to have survived than Agricultural Complexes, although the data are incomplete. As many buildings intended specifically as farm tenant houses were more insubstantially constructed, this is not surprising. On the other hand, tenant houses that disappeared

from the landscape years ago, the sites of which have only been plowed in the interim, in many cases may contain more undisturbed archaeological remains than the sites of Agricultural Dwellings and Agricultural Complexes continuously occupied over long periods and still extant. Finally, it is most difficult to evaluate the current condition of the archaeological remains associated with Agricultural Outbuildings, Agricultural Quarters, Agricultural Structures, Agricultural Transport Facilities, and Agricultural Commercial/ Industrial Outbuildings, as the information is most incomplete.